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10/591,611	10/15/2006	Daniel McStay	27667U	3396

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EXAMINER	
BENNETT, JENNIFER D	
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2878	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,611	MCSTAY ET AL.	
	Examiner	Art Unit	
	JENNIFER BENNETT	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

2. Claim 25 is objected to because of the following informalities:

Re claim 25: The claim is dependent on itself. For examining purposes the claim will be dependent on claim 24.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

2. Claim 1-14, 16-19, 23, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokhtuev et al. (WO 03/023379).

Re claims 1 and 38: Tokhtuev teaches a fluorometer (abstract, fig. 1-3) comprising an excitation system including an excitation source for producing excitation light capable of causing fluorescence in fluorescent material (paragraph 13); and a detection system for detecting said fluorescence (paragraph 14, lines 2-3), wherein said

excitation source comprises one or more light emitting diodes (LEDs) (paragraph 14, lines 3-4) associated with means for causing said excitation light to form a beam that projects (2 and 22), during use, from the fluorometer to enable the detection of fluorescent material located remotely from the fluorometer (see fig. 1).

Re claim 2: Tokhtuev teaches a fluorometer, wherein said beam causing means comprises a system of at least one lens (2) (fig. 3).

Re claim 3: Tokhtuev teaches a fluorometer, wherein the lens system comprises at least one collimating lens (paragraph 15, lines 9-11).

Re claim 4: Tokhtuev teaches a fluorometer (fig. 3), wherein said excitation source is located substantially at the focal point of the nearest to the excitation source of said at least one lens (ball lenses 22 are next to each other so that the LED 27 is at the focal point of the nearest ball lens).

Re claim 5: Tokhtuev teaches a fluorometer wherein said beam causing means includes a collimator (paragraph 15, lines 9-11).

Re claim 6: Tokhtuev teaches a fluorometer (fig. 3), wherein said excitation source comprises a plurality of LEDs arranged in a generally rectangular and at least one dimensional array (the two LEDs 27 are in a row therefore one dimensional and generally rectangular).

Re claim 7: Tokhtuev teaches a fluorometer (fig. 2), comprising means for modulating said beam (10) of excitation light with a modulating signal having a modulation frequency (the generators modulate current through the LEDs therefore having some modulating frequency, paragraph 14 and 35).

Re claim 8: Tokhtuev teaches a fluorometer (fig. 2), wherein said modulating means is arranged to amplitude modulate said beam (the generators modulate current through the LEDs therefore having some modulating amplitude).

Re claim 9: Tokhtuev teaches a fluorometer (fig. 2), wherein said modulating means modulates said beam by adjusting the power supply (15) of the excitation source in accordance with said modulating signal (follow arrows to the generators 10, modulates the current through the LEDs 5 and 6).

Re claim 10: Tokhtuev teaches a fluorometer, wherein said beam is generally conical in shape (see fig. 2).

Re claim 11: Tokhtuev teaches a fluorometer, wherein the detection system comprises means for receiving light and for converting said received light into a corresponding electrical signal (3 and 4 in fig. 2, paragraph 14 lines 2-3).

Re claim 12: Tokhtuev teaches a fluorometer, wherein said light receiving and converting means comprises a photodetector (a photodiode is a photodetector, paragraph 14, lines 2-3).

Re claim 13: Tokhtuev teaches a fluorometer, wherein the detection system comprises a system of at least one lens (2 and 22, fig. 3), the arrangement being such that the lens system directs said received light onto said light receiving and converting means (paragraph 35, lines 8-10).

Re claim 14: Tokhtuev teaches a fluorometer, wherein said lens system includes at least one collimating lens (22).

Re claim 16: Tokhtuev teaches a fluorometer (fig. 3), wherein said light receiving and converting means (28a and b) is located substantially at the focal point of the nearest to said light receiving and converting means of said at least one lens (ball lenses 22 are next to each other so that the photodiode 28a and b is at the focal point of the nearest ball lens).

Re claim 17: Tokhtuev teaches a fluorometer (fig. 3), wherein said detection system further includes, or is associated with, means for detecting (28a and b), in the electrical signal produced by said light receiving and converting means, a signal component of substantially the same frequency as said modulation frequency (paragraph 35).

Re claim 18: Tokhtuev teaches a fluorometer (fig. 3), wherein said detecting means is arranged to detect (28a and 28b), in the electrical signal produced by said light receiving and converting means, a signal component of substantially the same frequency as said modulation frequency and substantially in phase with the modulation of said beam (paragraph 35, the generators modulate current through the LEDs therefore having some modulating frequency).

Re claim 19: Tokhtuev teaches a fluorometer (fig. 3), wherein said detecting means includes means for performing spectral analysis of the electrical signal produced by the light receiving and converting means and means for determining the value of the spectral component of said electrical signal corresponding to said modulation frequency (paragraph 35, 18, and 19, using the signal detected to find liquid composition with spectral analysis).

Re claim 23: Tokhtuev teaches a fluorometer, wherein the excitation system and the detection system are located in a common housing (see fig. 2).

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Rios et al. (US 4983846).

Re claim 1: Rios teaches a fluorometer comprising an excitation system including an excitation source for producing excitation light capable of causing fluorescence in fluorescent material (col. 2, lines 34-64); and a detection system for detecting said fluorescence (col. 4, lines 32-37), wherein said excitation source comprises one or more light emitting diodes (LEDs) (col. 3, lines 43-46) associated with means (15) for causing said excitation light to form a beam that projects (see fig. 1), during use, from the fluorometer to enable the detection of fluorescent material located remotely from the fluorometer (see fig. 1).

Re claim 11: Rios teaches a fluorometer, wherein the detection system comprises means for receiving light and for converting said received light into a corresponding electrical signal (col. 4, lines 32-37, photographic and television cameras convert light signals to electric signals).

Re claim 13: Rios teaches a fluorometer, wherein the detection system comprises a system of at least one lens (27, 25, fig. 1), the arrangement being such that the lens system directs said received light onto said light receiving and converting means (see fig. 1 or 2).

Re claim 15: Rios teaches a fluorometer, wherein said lens system is arranged to provide a generally conical detection volume for the detection system (the beam in fig. 1 has a cylindrical volume).

Re claim 20: Rios teaches a fluorometer (fig. 1), wherein the excitation system and the detection system are each provided in a respective housing (the emitting portion is in the top housing and the detector portion in the bottom housing), the respective housings being located adjacent one another and arranged such that there is an overlap, during use, between the excitation beam emanating from the excitation system housing and the detection volume of the detection system housing (see fig. 1 and the beam direction there is an overlap between the two beams).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rios et al. (US 4983846) in view of Shibata (JP 04237114).

Re claim 21: Rios teaches a fluorometer (fig. 1), wherein the excitation system and the detection system are each provided in a respective housing (the emitting

portion is in the top housing and the detector portion in the bottom housing), the respective housings being located adjacent one another and arranged such that there is an overlap, during use, between the excitation beam emanating from the excitation system housing and the detection volume of the detection system housing (see fig. 1 and the beam direction there is an overlap between the two beams) and that there is an angle between both of the housings (fig. 1). Rios does not teach a fluorometer, wherein the respective housings are adjustably interconnected so that the relative angular disposition between the respective housings may be altered. Shibata teaches an alignment device (drawing 3, abstract), comprising: a light source unit 20 and a detection unit (50) where in the angle between the two units is adjusted with a device (7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an angle adjustment as in Shibata with the fluorometer of Rios in order to control where the beam is headed and make sure that it is aligned properly for concise measurements.

Re claim 22: Rios as modified by Shibata teaches a fluorometer, wherein the respective housings lie generally in a common plane (Shibata, see drawing 4), the relative angular disposition of the housings being alterable about an axis that is substantially perpendicular to said plane (Shibata, the units are rotated around an axis perpendicular to the plane).

6. Claims 24, 26, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokhtuev et al. (WO 03/023379) in view of Michael (US 4005605).

Re claim 24: Tokhtuev teaches a fluorometer (fig. 2), wherein said common housing comprises a window (area where lens 2 is placed) and at least one inner chamber (1), at least part of the excitation system (5 and 6) and at least part of the detection system (3 and 4) being located in said at least one inner chamber (1), said at least part of the excitation system being arranged so that said beam is projected, during use, out of the housing through said window (see fig. 2). Tokhtuev does not teach the fluorometer, wherein said at least part of the detection system facing away from said window, and wherein a reflecting surface is located inside the housing facing said window and beyond the detection system with respect to said window, said reflecting surface being arranged to direct light entering, during use, said housing through said window onto said detection system. Michael teaches an infrared thermometer (fig. 2 and 3), wherein said common housing (see fig. 2) comprises a window (34) and at least one inner chamber (the area where the detector 38 and the mirror 28 are located), at least part of the detection system (38) being located in said at least one inner chamber (the area where the detector 38 and the mirror 28 are located), said at least part of the detection system facing away from said window (element 38 is facing away from the window), and wherein a reflecting surface (28) is located inside the housing facing said window (28 is facing the window) and beyond the detection system with respect to said window (the reflecting surface is beyond 38 sensor), said reflecting surface being arranged to direct light entering, during use, said housing through said window onto said detection system (28 directs light to the detection system 38). It would have been obvious to one of ordinary skill in the art to use the detection and mirror system in

Michael (fig. 2 and 3) with the fluorometer of Tokhtuev in order to place the light source and detector where ever needed inside the housing to reduce size or cost or change the locations depending on the type of measurement needed.

Re claim 26: Tokhtuev as modified by Michael teaches a fluorometer (Tokhtuev, fig. 2), in which said at least one inner chamber (1) is located substantially on the longitudinal axis of said housing (outer shell in fig. 2).

Re claim 34: Tokhtuev as modified by Michal teaches a fluorometer (Tokhtuev, fig. 2), wherein the device comprises at least one housing (Michael, see fig. 2), the or each housing comprising a window (Michael, 34) through which said excitation beam is projected during use (Tokhtuev, see fig. 2) and/or though which light is received during use (Michael, the infrared light from the observed source enters through the window area, fig. 2 and 3), wherein at least one reflecting surface (Michael, 28) is slidably moveable towards and away from the window of the housing in which it is located (Michael, see fig. 3, the mirror is tilted toward the window).

7. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tokhtuev et al. (WO 03/023379) in view of Michael (US 4005605) as applied to claim 24 above, and further in view of Lazzara (US 3996476).

Re claim 25: Tokhtuev as modified by Michael teaches a fluorometer, wherein said at least part of the excitation system (Tokhtuev, 5 and 6) and said at least part of the detection system (Tokhtuev, 3 and 4) are located substantially next to one another within said housing (Tokhtuev, see fig. 2 and 3). Tokhtuev as modified by Michael do

not teach a fluorometer, wherein said at least part of the excitation system and said at least part of the detection system are located substantially co-axially with one another within said housing. Lazzara teaches a photoelectric detector (fig. 2 and 3), wherein said at least part of the excitation system (13) and said at least part of the detection system (17) are located substantially co-axially with one another within said housing (as seen in both figures the source and detecting device are co-axial). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the positioning of light source and detection device of Lazzara with the fluorometer as taught by Tokhtuev as modified by Michael in order to reduce the size of the fluorometer therefore reducing the cost and creating a device that could be used in smaller areas.

8. Claims 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokhtuev et al. (WO 03/023379) in view of Bernstein et al. (US 4496839).

Re claim 27: Tokhtuev teaches a fluorometer (fig. 2 and 3), wherein said common housing (outer shell in fig. 2) comprises a window (area with lens 2) and at least two inner chambers (AA and BB in fig. 3), at least part of the excitation system being located in a first inner chamber (AA is the LED) and at least part of the detection system being located in a second inner chamber (BB is the photodiode), said at least part of the excitation system being arranged so that said beam is projected, during use, out of the housing through said window (see fig. 3), said second inner chamber being located next to said first inner chamber (AA is next to BB) with respect to said window (area with lens 2), said at least part of the detection system facing towards said window

(BB the photodiodes are facing the window area see fig. 3). Tokhtuev does not teach the fluorometer, wherein said second inner chamber being located beyond said first inner chamber with respect to said window, and wherein a reflecting system is located between the first and second inner chambers and is arranged to direct light entering, during use, said housing through said window onto said detection system. Bernstein teaches a spectroscopy device (fig. 1), wherein said common housing (surround all elements in fig. 1 except 18, 36, 38, 42, 44) comprises a window (where beams are exiting) and at least two inner chambers (inside collecting optics and behind collecting optical), at least part of the excitation system (16, 14, and 12) being located in a first inner chamber (beam emitted from 16) and at least part of the detection system (26) being located in a second inner chamber (behind collecting optics), said at least part of the excitation system being arranged so that said beam is projected, during use, out of the housing through said window (see fig. 1), said second inner chamber being located beyond said first inner chamber with respect to said window (26 is beyond (behind) collecting optics, window portion is in the front of the collecting optics), said at least part of the detection system facing towards said window (see fig. 1), and wherein a reflecting system (22 and 24) is located between the first and second inner chambers and is arranged to direct light entering, during use, said housing through said window onto said detection system (see fig. 1). It would have been obvious to one of ordinary skill in the art to use the mirror system in Bernstein with the fluorometer of Tokhtuev in order to place the light source and detector where ever needed inside the housing to reduce size or cost or change the locations depending on the type of measurement needed.

Re claim 28: Tokhtuev as modified by Bernstein teaches a fluorometer (Bernstein, fig. 1), wherein said reflecting system comprises a first reflecting surface (22), facing towards said window (see fig. 1) and a second reflecting surface (24) facing away from said window (see fig. 1), the first reflecting surface being arranged to direct light entering, during use, said housing through said window onto said second reflecting surface, said second reflecting surface being arranged to direct said light onto said detection system (see fig. 1 and beam direction).

Re claim 29: Tokhtuev as modified by Bernstein teaches a fluorometer (Bernstein, fig. 1), wherein said first reflecting surface (22) is shaped to define an aperture (the hole in surface), said detection system being positioned to receive light from said second reflecting surface through said aperture (see fig. 1).

Re claim 30: Tokhtuev as modified by Bernstein teaches a fluorometer, wherein said reflecting system comprises a Cassegrainian mirror system (Bernstein, the mirror system with 22 and 24 with the hole in 22 is a Cassegrainian mirror system).

9. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tokhtuev et al. (WO 03/023379) in view of Field (US 20050174793).

Re claim 32: Tokhtuev teaches a fluorometer (see fig. 1-3), wherein fluorometer comprises at least one housing (outer shell fig. 2), the each housing comprising a window through which said excitation beam is projected during use (area with lens 2, see fig. 2) and/or though which light is received during use (see fig. 2). Tokhtuev does not teach wherein said excitation source is slidably moveable towards and away from

the window of the housing in which it is located. Field teaches a light source device (fig. 1 and 2), wherein a light source (18) is slidably moveable towards and away from the window (16) of the housing (10) in which it is located (see fig. 1 and 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a moveable light source as in Field with the fluorometer of Tokhtuev in order to control how the beam passes through the window area, whether as a collimated beam or focused on a point, dependent on the type of measurement needed.

10. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tokhtuev et al. (WO 03/023379) in view of Zielke et al. (US 3554653).

Re claim 33: Tokhtuev teaches a fluorometer (see fig. 1-3), wherein fluorometer comprises at least one housing (outer shell fig. 2), the each housing comprising a window through which said excitation beam is projected during use (area with lens 2, see fig. 2) and/or though which light is received during use (see fig. 2). Tokhtuev does not teach at least one lens of said lens system is slidably moveable towards and away from the window of the housing in which it is located. Zielke teaches an autocollimator (fig. 1), wherein at least one lens (7) of said lens system is slidably moveable towards and away from the window (lens 2) of the housing in which it is located (see fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the moveable lens of Zielke with the fluorometer of Tokhtuev in order to control how the beam passes through the window area, whether as a collimated

beam, focused on a point, moved to a different location, dependent on the type of measurement needed.

11. Claims 31 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokhtuev et al. (WO 03/023379) in view of Chudnovsky (US 6157033).

Re claim 31: Tokhtuev teaches a fluorometer (abstract, fig. 1-3) comprising an excitation system including an excitation source for producing excitation light capable of causing fluorescence in fluorescent material (paragraph 13); and a detection system for detecting said fluorescence (paragraph 14, lines 2-3), wherein said excitation source comprises one or more light emitting diodes (LEDs) (paragraph 14, lines 3-4) associated with means for causing said excitation light to form a beam that projects (2 and 22), during use, from the fluorometer to enable the detection of fluorescent material located remotely from the fluorometer (see fig. 1). Tokhtuev does not teach a fluorometer, further including a laser device carried by the fluorometer and positioned to project, during use, a laser beam in a direction generally parallel, or aligned, with the excitation beam. Chudnovsky teaches a leak detection system (fig. 1), further including a laser device (12) carried by the fluorometer and positioned to project, during use, a laser beam in a direction generally parallel, or aligned, with the excitation beam (col. 3, lines 18-19). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the laser pointer of Chudnovsky with the fluorometer of Tokhtuev in order to direct the excitation beam to certain locations for precision measurements.

Re claim 35: Tokhtuev teaches a fluorometer (abstract, fig. 1-3) comprising an excitation system including an excitation source for producing excitation light capable of causing fluorescence in fluorescent material (paragraph 13); and a detection system for detecting said fluorescence (paragraph 14, lines 2-3), wherein said excitation source comprises one or more light emitting diodes (LEDs) (paragraph 14, lines 3-4) associated with means for causing said excitation light to form a beam that projects (2 and 22), during use, from the fluorometer to enable the detection of fluorescent material located remotely from the fluorometer (see fig. 1) and wherein said detection system further includes, or is associated with, means for detecting (28a and b), in the electrical signal produced by said light receiving and converting means, a signal component of substantially the same frequency as said modulation frequency (paragraph 35). Tokhtuev does not teach a fluorometer, further including means for determining the amplitude of said signal component, and means for generating an alarm when said amplitude exceeds a threshold. Chudnovsky teaches a leak detection system (fig. 1), further including means for determining the intensity of said signal component, and means for generating an alarm when said intensity exceeds a threshold (col. 2 and 3, lines 66-67 and lines 1-29). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the alarm system of Chudnovsky with the fluorometer device of Tokhtuev in order to have a way of communicating results or information found by the device to the user operating the device.

12. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tokhtuev et al. (WO 03/023379) in view of Geiger (US 5947051).

Re claim 36: Tokhtuev teaches a fluorometer (fig. 1-3) for use under water (abstract). Tokhtuev does not teach a vehicle for use underwater, the vehicle carrying a fluorometer. Geiger teaches an underwater vehicle, the vehicle carrying a fluorometer (col. 28, lines 1-17, fig. 24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fluorometer of Tokhtuev on the underwater vehicle of Geiger in order to find leaks in steal structures under the water.

Re claim 37: Tokhtuev as modified by Geiger teaches a vehicle (Geiger fig. 24), wherein the vehicle includes at least one first moveable structure for carrying, during use, a camera (Geiger, 36) or lamp, the fluorometer (197 and 198) being carried by a second moveable structure, wherein said at least one first moveable structure and said second moveable structure are coupled electrically and/or mechanically so that the movement of the second structure is synchronized with the movement of said at least one first structure (Geiger, 56 is a robotic arm between the two structure holding the fluorometer 197 and 198 and the camera 36).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER BENNETT whose telephone number is (571)270-3419. The examiner can normally be reached on Monday - Friday 0730 - 1700 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. B./

/Georgia Y Epps/

Supervisory Patent Examiner, Art Unit 2878